Computerized Neuropsychological Assessment of Army Aviators

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Introduction

This project was initiated to address the current lack of standardized cognitive screening methods within Army Aviation and to begin developing a uniform database sys and electronic data transmission capabilities. Fort Ruck is the evaluation site.

Objectives:

- Develop a database for neuropsychological measures
- Develop a system to electronically transmit neuropsy test data collected at a remote location to a centralized
- Correlate neuropsychological variables from ANAM, CogScreen & MicroCog) to initial checkflight performan during Initial Entry Rotary Wing (IERW) training.

Method

- Evaluation of:
  - Newly developed web-based application
    URL
    https://consult.wramc.amedd.army.mil/neuropsych/index4.cfm
    (e.g., ability to log-in, upload data)
  - Newly developed history questionnaire (NHQ-AE) and neuropsychological test (USA-ACAT)
  - Ongoing problems (bugs) in the system (CogScreen™ and MicroCog™)
- Analysis of correlations between neuropsychological variables and Aviator checkflight data
- Assessment of future cost to complete

Results

- Protocol developed and approved APR01.
- USA-ACAT (derived from ANAM2001) development completed APR01.
- US Army Neuropsychology data collection web application successfully launched MAY01 at Fort Rucker, AL.
- NHQ-AE successfully used to collect and submit data to a secure server.
- USA-ACAT successfully downloaded, administered, and data file uploaded to server.
- PI at WRAMC successfully viewed data via website
- Data analysis pending; three subjects have been evaluated

Discussion

- Website and centralized Neuropsychology database is useful.
- Website benefits include:
  - increased access from remote locations.
  - increased quality by connecting other medical entities to a centralized resource.
  - potential cost savings by reducing need to travel for expert advice, guidance and assessment services.
- Additional benefits are:
  - Flight Surgeons and Commanders
  - Unit Safety Officers and Accident Investigators
  - Flight Review Boards
- Effective Collaboration among WRAMC, MAMC